Before the **FEDERAL COMMUNICATIONS COMMISSION** Washington, DC 20554

In the Matter of)	
Misuse of Internet Protocol (IP) Captioned Telephone Service))	CG Docket No. 13-24
Telecommunications Relay Services and Speech-to-Speech Services for Individuals)	CG Docket No. 03-123
with Hearing and Speech Disabilities)	

To: Secretary, FCC

For: Chief, Consumer and Governmental Affairs Bureau

COMMENTS OF HAMILTON RELAY, INC. CONCERNING NOTICE OF INQUIRY

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SUMMARY

Hamilton urges the Commission to quickly adopt a Notice of Proposed Rulemaking based on the record in this proceeding in order to expedite the completion of IP CTS service quality rules. The need for IP CTS service quality metrics has been sufficiently vetted through the Disability Advisory Committee and other fora, and the need for such standards is pressing. These important service quality rules must be adopted in tandem with the adoption of any rules following from the separate *Further Notice of Proposed Rulemaking*.

In particular, the Commission should adopt the IP CTS quality metrics proposal set forth in the Joint Provider Recommendations, which will best ensure functional equivalency. Finally, the Commission should adopt measurable standards for IP CTS to allow objective assessments of whether the Commission is satisfying its statutory mandate of ensuring a functionally equivalent communications experience for individuals who are hard of hearing.

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COMMENTS OF HAMILTON RELAY, INC.

Hamilton Relay, Inc. ("Hamilton"), by its counsel, hereby submits these comments in response to the *Notice of Inquiry* in the above-captioned proceeding regarding Internet Protocol Captioned Telephone Services ("IP CTS"). As a provider of IP CTS nationwide to individuals who are hard of hearing, and who rely daily on this critical service, Hamilton urges the Commission to move quickly to adopt quality metrics consistent with the joint provider recommendations for IP CTS quality metrics on an expedited basis that allows these issues to be resolved simultaneously with the resolution of matters raised in the *Further Notice*. In addition, the Commission should utilize certain current, objectively measurable mandatory minimum standards when evaluating the program's functional equivalence.

¹ Misuse of Internet Protocol (IP) Captioned Telephone Service; Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, Report and Order, Declaratory Ruling, Further Notice of Proposed Rulemaking, and Notice of Inquiry, FCC 18-79 (rel. June 8, 2018) ("Report and Order," "Declaratory Ruling," "Further Notice," or "Notice of Inquiry" as appropriate).

² Letter from Dixie Ziegler, Hamilton Relay, Inc.; Bruce Peterson, CaptionCall, LLC; Cristina Duarte, InnoCaption; Michael Strecker, ClearCaptions, LLC; and Scott R. Freiermuth, Sprint Corporation, to Marlene H. Dortch, Secretary, FCC, CG Docket Nos. 13-24 & 03-123 (filed Aug. 21, 2018) (together the "Joint Providers" and "Joint Provider Recommendations").

I. The Commission Should Move Expeditiously to Issue a Notice of Proposed Rulemaking, Allowing the Agency to Resolve the Issues in the *Further Notice* and the *Notice of Inquiry* Concurrently

Both consumers and industry agree that rules to adopt metrics to measure IP CTS service quality are overdue. The agency should move swiftly to adopt a related Notice of Proposed Rulemaking that would enable the Commission to address rules stemming from the *Notice of Inquiry* in connection with those raised in the *Further Notice*. With the Commission's *Declaratory Ruling* authorizing the exclusive use of automated speech recognition ("ASR-only") for IP CTS (a procedural action opposed by Hamilton and others in the absence of quality standards), the need for uniform quality standards for all forms of IP CTS and CTS is even more acute.

As Hamilton has explained, the need for IP CTS service quality metrics has been sufficiently vetted through the Disability Advisory Committee ("DAC") and other fora, and the need for such standards is pressing.⁵ The record developed in response to the 2015 Government Accountability Office ("GAO") report on the Telecommunications Relay Service ("TRS") program leaves no doubt that both consumer groups and the IP CTS industry support workable

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³ *Notice of Inquiry* ¶ 164; *see also* Letter from David A. O'Conner, Counsel for Hamilton Relay, Inc., to Marlene H. Dortch, Secretary, FCC, CG Docket Nos. 13-24 & 03-123, at 3 (filed May 24, 2018) ("Hamilton May 2018 Ex Parte") (urging the Commission to move the issues raised in the *Notice of Inquiry* to the *Further Notice*).

⁴ Declaratory Ruling ¶ 48 (authorizing compensation from the TRS fund for IP CTS using ASR to generate captions) (Petition for Reconsideration pending); see, e.g., Comments by the National Association for State Relay Administration, CG Docket Nos. 13-24 & 03-123, at 2 (filed Sept. 14, 2018) (Declaratory Ruling "is premature in allowing ASR based IP CTS services without first developing standards and metrics for the provision of IP CTS.").

⁵ Comments of Hamilton Relay Inc., CG Docket Nos. 03-123 & 10-51, at 10 (filed May 24, 2017); Hamilton May 2018 Ex Parte at 3; *see also, e.g.*, Reply Comments of Ultratec, Inc., CG Docket Nos. 10-51 & 03-123, at 4-5 (filed June 11, 2015) ("Ultratec 2015 Reply Comments") (urging the Commission to adopt minimum IP CTS standards as recommended by the GAO).

quality metrics and performance standards for IP CTS.⁶ The need for IP CTS quality metrics has not lessened in the three and a half years since the GAO released its report.

Consumer Groups and the IP CTS industry have since thoroughly explored the need for IP CTS quality metrics through the DAC which, in September 2016, recommended that the Commission "establish rules and standards for IP CTS quality of service through a proposed rulemaking proceeding ... [and] propose amendments to its current rules as needed to specifically address IP CTS quality of service." Just this month, the DAC adopted additional recommendations related to IP CTS service metrics, including that "current IP CTS quality (as well as ASR quality) be measured and quality metrics established to create minimum performance standards for IP CTS" before a full shift in IP CTS technology takes place.⁸

Consumer Groups and providers echo the recommendations from the DAC and have consistently urged the Commission to adopt quality and service standards.⁹

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⁶ See, e.g., Comments of Consumer Groups and Registry of Interpreters for the Deaf, CG Docket Nos. 10-51 & 03-123, at 2 (filed June 4, 2015) ("Consumer Groups June 2015 Comments") (filed as Telecommunications for the Deaf and Hard of Hearing, Inc. et al.); Comments of Hamilton Reply, Inc., CG Docket Nos. 10-51 & 03-123, at 12-13 (filed June 4, 2015) (encouraging the Commission to adopt "clearly defined, measurable standards for IP CTS"); see also GAO, GAO-15-409, Telecommunications Relay Service; FCC Should Strengthen Its Management of Program to Assist Persons with Hearing or Speech Disabilities, at 17-20 (Apr. 2015), http://www.gao.gov/products/GAO-15-409.

⁷ FCC, Recommendation of the FCC Disability Advisory Committee, IP CTS Quality Standards, CG Docket Nos. 03-123 & 13-24, at 1 (filed Sept. 22, 2016) ("DAC Sept. 2016 Recommendations"), https://apps.fcc.gov/edocs_public/attachmatch/DOC-341497A1.pdf. ⁸See FCC, Recommendation of the FCC Disability Advisory Committee Relay and Equipment Distribution Subcommittee Internet Protocol Captioned Telephone Relay Service Metrics, IP CTS Service Metrics, at 2 ("DAC 2018 Recommendations") (Oct. 3, 2018), https://ecfsapi.fcc.gov/file/10122598-307482/DOC-354522A1.pdf.

⁹ See, e.g., Comments of the Hearing Loss Association of America et al., CG Docket Nos. 13-24 & 03-123, at 20 (filed Nov. 4, 2013) (filed as TDI et al (Consumer Groups)); Reply Comments of Sprint Corporation, CG Docket Nos. 13-24 & 03-123, at 7-8 (filed Dec. 4, 2013) ("Sprint 2013 Reply Comments") (urging the Commission to work with industry to develop objective, measurable and enforceable quality of service metrics); Comments of Miracom USA, Inc., CG

As a long-time proponent of standards regarding speed and accuracy, ¹⁰ Hamilton again urges the Commission to act expeditiously on these issues. Hamilton and others have noted that quality and service standards for IP CTS should take place before changes are made to the IP CTS rate methodology. ¹¹ Because quality standards will impact costs, which are among other issues the Commission is considering in its pending *Further Notice*, it is even more important that the Commission now move swiftly from a *Notice of Inquiry* to a rulemaking on IP CTS quality metrics and performance standards. ¹² In short, Hamilton urges the Commission to focus on adopting workable performance and compliance goals, including new IP CTS mandatory minimum standards, in tandem with costs and other issues.

II. The Joint Provider Quality Metrics Recommendation Will Best Set Service Quality Metrics to Ensure Functional Equivalency

Hamilton generally supports the Commission's goals for the IP CTS program, but "the provision of a functionally equivalent conversational experience through IP CTS" must be of prime importance. To ensure all providers of IP CTS services reach a level of performance that

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Docket Nos. 13-24 & 03-123, at 3 (filed Oct. 23, 2013) (encouraging the Commission to adopt minimum standards related to speed of captioning and error rate).

¹⁰ See Comments of Hamilton, CG Docket Nos. 13-24 & 03-123, at 14 (filed Nov. 4, 2013) ("Hamilton Nov. 2013 Comments"); Reply Comments of Hamilton, CG Docket Nos. 13-24 & 03-123, at 10-11 (filed Dec. 4, 2013).

¹¹ See, e.g., Comments of Hamilton Relay, Inc., CG Docket Nos. 13-24 & 03-123, at 14, 15 (filed May 24, 2016) ("The Commission's focus should be on adopting workable performance goals, including new IP CTS compliance standards, rather than concentrating its efforts on rate reductions or modifications to its ratemaking methodologies."); Comments of InnoCaption, CG Docket Nos. 13-24 & 03-123, at 3-4 (filed Oct. 2013) (noting that the Commission "cannot rationally address the payment rate for IP CTS without addressing these two critical measures of service quality: accuracy and captioning delay").

¹² See Comments of Hamilton Reply, Inc., CG Docket Nos. 13-24 & 03-123, at 10 (filed Sept. 17, 2018) ("Hamilton Sept. 2018 Comments").

 $^{^{13}}$ 47 U.S.C. § 225(a)(3), (b)(1); *Notice of Inquiry* ¶ 160; *id.* ¶ 157 ("[T]he primary goals for the IP CTS program should be (1) to make communications services available to individuals with communications disabilities that are functionally equivalent to communications services used by individuals without such disabilities; (2) to keep up with technological changes and advances . . .

can provide a functionally equivalent experience to users, the Commission should adopt formal standards and measurements. Specifically, the Commission should adopt the IP CTS quality metrics proposal set forth in the Joint Provider Recommendations, which will best ensure functional equivalency.¹⁴

The Joint Providers developed their recommendations based on ongoing dialog with consumers groups as well as years of conversations in the DAC, including those that led to official DAC recommendations to the Commission. The Joint Provider Recommendations address the quality metrics needed to ensure functionally equivalent service as well as testing and measurement procedures, and the recommendations represent the most comprehensive and workable approach to quality metrics for IP CTS to date.

Building on their operational expertise, the Joint Providers outline a methodology to objectively test IP CTS service to establish a baseline that will facilitate the development of industry-driven performance standards. ¹⁵ This baseline would apply to IP CTS regardless of the technology used to generate captions. ¹⁶ The testing procedures and quality metrics in the Joint Provider Recommendations would allow the Commission and industry to evaluate performance across providers and measure functional equivalency in consistent manner. ¹⁷ The industry

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and (3) . . . to improve the efficiency of IP CTS, and reduce the incidence of waste, fraud, and abuse.").

¹⁴ See generally Joint Provider Recommendations.

¹⁵ *Id.* at 10.

¹⁶ See DAC 2018 Recommendations at 1("[Q]uality metrics and measurements are needed to ensure all IP CTS providers, regardless of method or platform, reach a level of performance that can provide, to the extent possible, a functionally equivalent experience for users.").

¹⁷ See, e.g., Ultratec 2015 Reply Comments at 5 ("[I]t is important that [performance] standards be based on uniform measurement criteria adopted by the Commission in close collaboration with industry stakeholders.").

proposes to perform baseline testing prior to the Commission-level adoption of final performance standards to help create a level playing field regarding quality of service.¹⁸

Before providers can conduct baseline testing, the Commission should establish and release publicly the quality metrics against which all providers will test their IP CTS service.¹⁹ Hamilton and other IP CTS providers support the initial quality metrics outlined in the Joint Provider Recommendations – specifically, metrics to measure accuracy and delay.²⁰ While it may be appropriate to adopt additional metrics such as those proposed in the *Notice of Inquiry*, these initial quality metrics can serve as a foundation for baseline testing, and will facilitate conversations about the need for any additional metrics.²¹

Therefore, consistent with the Joint Provider Recommendations, "accuracy" should be defined as:

100% minus the Major Word Error Rate on the final displayed captions, where the Major Word Error Rate is the number of word substitutions, deletions, and insertions that significantly alter, obscure or reverse the meaning of the original speech divided by the total number of words in the original speech.²²

¹⁸ Joint Provider Recommendations at 10.

¹⁹ *Notice of Inquiry* ¶ 164 (seeking comment on seven metrics (transcription accuracy, transcription synchronicity, transcription speed, speed of answer, dropped or disconnected calls, service outages, and usage data) to measure IP CTS service quality and asks questions related to how testing and data gathering should be used to assess functional equivalence).

²⁰ Joint Provider Recommendations at 3-6. Metrics to test accuracy and delay would be in addition to delivering verbatim captions of what a caller says and answering 85 percent of calls within 10 seconds as required today. *Id.* at 2-3; *see also* Hamilton Nov. 2013 Comments at 14 (expressing support for the adoption of minimum accuracy requirements for IP CTS); Sprint 2013 Reply Comments at 7 (supporting Hamilton's calls for accuracy standards).

²¹ Hamilton has long advocated for clearly defined, measurable captioning standards for speed

²¹ Hamilton has long advocated for clearly defined, measurable captioning standards for speed and accuracy. *See*, *e.g.*, Hamilton Nov. 2013 Comments at 14. Hamilton has also expressed support for additional standards such as defining abandoned call counts and adopting a clear definition of how to measure conversation time. *Id.*; *see also Notice of Inquiry* ¶¶ 172-174 (seeking comment on metrics for dropped or disconnected calls, service outages, and usage data). ²² Joint Provider Recommendations at 3; *see also Notice of Inquiry* ¶ 166 (seeking comment on

Joint Provider Recommendations at 3; see also Notice of Inquiry ¶ 166 (seeking comment on how to measure transcription accuracy).

This approach is consistent with recommendation of the DAC.²³ Minor errors that do not significantly alter the meaning of the original text should not be calculated as errors. Hamilton recommends that the Commission empower the IP CTS industry to develop a manual that clearly spells out how to measure accuracy and differentiate between major and minor errors.²⁴

In addition, "delay" should be defined as:

the time that elapses between the utterance of a word by the person on the farend of an IP CTS user's phone call and the final displayed appearance of that word in the stream of captions on the IP CTS user's primary display. It is expressed in seconds.²⁵

As the Commission notes, "captions should begin to appear at the approximate time that the corresponding speech begins and end approximately when the speech ends," and the Joint Provider Recommendations provide a way to measure that objective. Furthermore, "[m]easurement of delay should consider the average delay during a call, but should also describe delay changes over the course of a call."

Hamilton and other IP CTS providers have been testing the accuracy of their own products for years, but each provider uses different standards. In order to create objective performance standards, it is important for the industry to establish a common baseline. Key to Joint Providers' proposal is the utilization of "test calls" as opposed to actual phone calls by IP CTS users.²⁸ For example, as Ultratec explains, "live calls involve too many variables to enable

²³ See DAC Sept. 2016 Recommendations at 1.

The recommendations provide an example of how the accuracy percentage would be calculated for a test call. *See* Joint Provider Recommendations at 5.

²⁵ See id. at 6; see Notice of Inquiry ¶¶ 168-169 (seeking comment on how to measure transcription synchronicity).

²⁶ Notice of Inquiry ¶ 168.

²⁷ Joint Provider Recommendations at 6.

²⁸ *Id.*; *see*, *e.g.*, Reply Comments of Ultratec, Inc., CG Docket Nos. 13-24 & 03-123, at 10 (filed Dec. 4, 2013) ("Ultratec 2013 Reply Comments") ("[S]tandardized scripts, as opposed to live test calls, are needed to ensure accurate, consistent measurement across providers.").

consistent, objective measurement across both CAs and providers."²⁹ Hamilton and other IP CTS providers are ready to build a library of test calls that incorporate the guidelines in the Joint Provider Recommendations to facilitate the consistent evaluation of the industry and new entrants, including ASR-only participants.³⁰

The Commission should encourage IP CTS providers to work together to create a common library of test call recordings and transcripts. It should then require IP CTS testing using the testing guidelines in the Joint Provider Recommendations. Testing using the initial quality metrics outlined in the Joint Provider Recommendations will enable the Commission "to track the progress and success of the IP CTS program . . . [and] provide valuable empirical evidence for Commission policy makers to craft rules for effective implementation and oversight of the IP CTS program[.]"³¹ Finally, the Commission should use the Joint Provider Recommendations on general guidelines for testing as a basis for proposals going forward.³²

III. The Commission Should Include Certain Performance Measures in its Assessment of the Principal Goal of Functional Equivalence

The statutory requirement to ensure "functionally equivalent" voice service to "to the extent possible and in the most efficient manner" must be the Commission's lodestar.³³ In this regard, the Commission's current mandatory minimums provide important, objective, and measurable assurances for assessing the goal of a functionally equivalent IP CTS program.

Hamilton strongly supports making "Goal #1" – functional equivalence – the principal performance goal, with the Commission leveraging certain existing mandatory requirements as a

²⁹ Ultratec 2013 Reply Comments at 10.

³⁰ Joint Provider Recommendations at 9.

³¹ *Notice of Inquiry* ¶ 161. Hamilton agrees with the Joint Provider Recommendations that if the results of testing are used to craft rules going forward, the plans for testing should be reviewed by non-biased third parties "who can make recommendations and assure integrity of these plans." Joint Provider Recommendations at 9.

³² Joint Provider Recommendations at 7-9.

³³ 47 U.S.C. § 225(a)(3), (b)(1).

way to assess efforts to achieve that goal.³⁴ The April 2011 Consumer Groups' explanation of the term "functionally equivalent" accurately articulates this goal.³⁵ Under no circumstances should the Commission attempt to settle for a lesser standard than functional equivalence by prioritizing other goals, such as technological advances (which should be driven by the marketplace) or an efficiency standard based on monetary considerations. A "good enough" performance goal for functional equivalence is simply unworkable and contrary to the Commission's obligations under the ADA.

The Commission should include certain performance measurements when evaluating how the IP CTS program is providing a functionally equivalence service. Specifically, the Commission should continue to leverage existing performance assessments while avoiding the inclusion of measurements that are beyond a provider's ability to control.³⁶

Speed of Answer. The Commission's speed of answer rule has served as a guarantee that relay services will be available every time a user reaches for a phone – much like the familiar dial tone.³⁷ Providers have a successful track-record of measuring their calls and meeting the requirement that 85 percent of all IP CTS calls be answered within ten seconds.³⁸ The

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Notice of Inquiry ¶ 158, ¶ 161.

³⁵ See Letter from Tamar Finn, Counsel to Telecommunications for the Deaf and Hard of Hearing, Inc., to Marlene H. Dortch, Secretary, FCC, CG Docket Nos. 03-123 & 10-51, Attach. at 1 (filed Apr. 12, 2011) ("Persons receiving or making relay calls are able to participate equally in the entire conversation with the other party or parties and they experience the same activity, emotional context, purpose, operation, work, service, or role (function) within the call as if the call is between individuals who are not using relay services on any end of the call").

³⁶ To be clear, Hamilton is not suggesting that the Commission *limit* its assessment of functional equivalency to these measurements.

³⁷ See, e.g., Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, Report and Order and Declaratory Ruling, 22 FCC Rcd 20140, 20183 ¶ 96 (2007) ("the obligation placed on TRS providers is to be available to handle calls consumers choose to make, when they choose to make them, *i.e.*, to be the 'dial tone' for a consumer that uses relay to call to a voice telephone user").

³⁸ 47 C.F.R. § 64.604(b)(2)(ii).

Commission should leverage the work IP CTS providers do to measure and guarantee availability of their service. There would be no need to engage a third-party to measure speed of answer, given that providers produce this data already and make it available to the TRS Fund Administrator. If necessary, the Commission and/or the TRS Fund Administrator can audit providers with respect to speed of answer compliance.³⁹

Dropped or Disconnected Calls. The Commission should not use a dropped or disconnected call metric to assess whether the program is achieving functional equivalence. ⁴⁰ In the traditional IP CTS set-up, IP CTS users connect to their IP CTS provider through an Internet connection that is separate from the voice-to-voice call to the other party. ⁴¹ Accordingly, the concept of a "dropped or disconnected call" is not applicable to the provider-user connection, and would not provide the Commission with usable information for determining whether the program is achieving functional equivalence.

Service Outages. Hamilton does not object to using the service outage information the Commission currently collects to ensure that IP CTS is available on a functionally equivalent basis.⁴² Much like speed of answer, the service outage rules have served as a successful guarantee of service availability that can be leveraged by the Commission when assessing the IP CTS program without changes to current practices.⁴³

Usage Data/Program Efficiency. The Commission, through the Fund Administrator and its Office of the Inspector General, currently audits and reviews IP CTS provider call detail

 $^{^{39}}$ *Notice of Inquiry* ¶ 171 (asking if the Commission should engage "independent third parties" to measure speed of answer).

⁴⁰ *Id.* ¶ 172 (seeking comment on whether to use of a "dropped" or disconnected call metric).

⁴¹ See Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities; Internet-based Captioned Telephone Services, Declaratory Ruling, 22 FCC Rcd 379, 385 ¶ 14 (2007) (explaining the two-line setup of an IP CTS call).

⁴² Notice of Inquiry ¶ 173.

⁴³ See 47 C.F.R. § 64.606(h)(3).

records. 44 These current practices, as well as the additional information to be gathered by the Fund Administrator resulting from the recent IP CTS Report and Order, provide the Commission with numerous data points about IP CTS performance.⁴⁵ The Commission should continue to leverage its auditing control mechanisms to ensure functional equivalence and program efficiency. 46

IV. Conclusion

For the above reasons, Hamilton urges the Commission to quickly adopt a Notice of Proposed Rulemaking proposing rules related to IP CTS service quality based on the Joint Provider Recommendations. In addition, the Commission should adopt measurable standards for IP CTS to allow objective assessments of whether the Commission is satisfying its statutory mandate of ensuring a functionally equivalent communications experience for individuals who are hard of hearing.

Respectfully submitted,

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October 16, 2018

⁴⁶ *Notice of Inquiry* ¶ 174, ¶ 180.

⁴⁴ See, e.g., id. § 64.604(c)(5)(iii)(D) (providing both the Fund and the Office of Inspector General "authority to examine and verify TRS provider data as necessary to assure the accuracy and integrity of TRS Fund payments"); FCC, Office of Inspector General, Audit of Federal Communications Commission Compliance with the Improper Payments Elimination and Recovery Improvement Act FY 2017, Report No. 18-AUD-01-02, (May 15, 2018), https://transition.fcc.gov/oig/18-AUD-01-02 IPERIA FY17 TM Final Audit Report -05152018.pdf.

⁴⁵ Report and Order ¶¶ 36-37 (adopting rules to empower the Fund Administrator and the Office of Inspector General with even more detailed audit powers than they had had previously).